

Appl. No.: 09/851,340
Amdt. dated March 2, 2004
Reply to Office Action of January 2, 2004

REMARKS/ARGUMENTS

Receipt of the Office Action dated January 2, 2004 is hereby acknowledged. In that Action, the Examiner: 1) rejected claim 13 as allegedly obvious over Tabata (U.S. Patent No. 5,579,026) in view of Deering (U.S. Patent Publication No. 2002/0015052); 2) rejected claims 1-12 as allegedly obvious over Tabata, Green (U.S. Patent No. 5,124,695), Deering and Garlick (U.S. Patent No. 6,614,448); and 3) rejected claims 14-21 as allegedly obvious over Tabata, Green and Deering.

With this response, Applicant amends claims 1-8, 13 and 16. Reconsideration is respectfully requested.

I. CLAIM REJECTIONS

A. Claim 1

Claim 1 stands rejected as allegedly obvious over Tabata, Green, Garlick and Deering. However, no mention of, or citation to, Deering is made in the substance of the rejection. Applicant amends claim 1 to make more clear that it is an overall frame of an image that has an inner region of higher resolution and an outer region a lower resolution to more clearly define over the system of Garlick, where the regions of lower resolution are unrelated to the pixel's position on a display.

Applicant respectfully submits that the combination of Tabata, Green and Garlick does not teach or fairly suggest the limitations of claim 1. Tabata appears to be directed to an image display apparatus mounted on a user's head that has a "see-through function" so that both the user's surroundings, and the image generated by the device, may be seen simultaneously. Tabata Title; Col. 4, II. 21-24; Col. 5, II. 8-10. The images generated by the liquid crystal display may be shifted to the edges of the viewing field. Tabata, Col. 5, II. 28-48; Figure 3. Consistent with the idea that in Tabata the entire image displayed may be shifted to the periphery of the viewable area (presumably so as to reduce interference with the view of the surroundings), no mention is made of lowering the resolution of the shifted image.

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Green is directed to a single pixel of a liquid crystal display. See Green Abstract. Green appears to be concerned only with providing a pixel that may change brightness without a visually perceptible position change.

The concentric arrangement of the areas is significant. Since the human eye is very sensitive to small errors in apparent pixel position, it is important that each of the areas has the same average position, so that different bit patterns cause the pixel to change brightness only, without apparent positional change.

Green, Col. 3, ll. 6-11. The combination of Tabata and Green then would teach only that the LCD panels 22R and 22L of Tabata could possibly contain a plurality of Green's specially adapted pixels. However, the combination, even if proper, teaches nothing of the edge-to-edge resolution of the LCD panels thereby created.

Garlick appears to be directed to a method and related system of displaying a graphics primitive that reduces or eliminates aliasing. Garlick Summary; Col. 7, ll. 26-55. In particular, and referring to Garlick's Figure 2A, pixels within a graphics primitive 208 may have high resolution (pixels 221A-221P), and pixels at the periphery of the graphics primitive 208 may have low resolution (pixels 222A-222R). *Id.* However, in Garlick the areas of high resolution and low resolution are dictated by the boundaries of the graphics primitive, not the position of the graphics primitive on the display.

Therefore, the effective resolution of each of [the] pixels 221A-221P and 222A-222R is unrelated to the physical location of the pixel on the screen, and instead changes dynamically depending on the image 220 being displayed.

Garlick, Col. 7, ll. 56-59. Thus, at best, the combination of Tabata, Green and Garlick would teach only that resolution within a graphic primitives should be higher than at the boundary of the graphic primitive. The combination teaches nothing of the resolution of an image frame near the edge of the display.

Claim 1, by contrast, specifically recites, "displaying an outer region of the frame of the image ..., wherein the outer region is of substantially lower resolution than the inner region." Thus, even if a graphics primitive of the frame of the image is in the outer region, that graphics primitive is displayed with lower

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resolution, in direct contradiction to the teachings of Garlick (and the remaining references). For this reason alone, claim 1 should be allowed.

Claim 1 also recites, "determining at least one of a motion, brightness or color characteristic from the inner region display signal; [and] generating an outer region display signal using the at least one motion, brightness or color characteristic" The combination of Tabata, Green and Garlick does not teach, suggest or even imply that an inner region characteristic should be used in generating an outer region display signal.

Based on the foregoing, Applicant respectfully submits that claim 1, and all claims which depend from claim 1 (claims 2-7), should be allowed. Applicant amends claims 2-7 to remove the "the step of" terminology to ensure that 35 U.S.C. § 112, ¶ 6, is not invoked. Applicant further amends claims 2-7 to reflect the amendments to claim 1.

B. Claim 6

Claim 6 stands rejected as allegedly obvious over Tabata, Green and Garlick. Applicant amends claim 6 as discussed above.

Claim 6, in addition to requiring the elements of claims 1 and 3, specifically recites that the displaying an outer region of the frame of an image further comprises "illuminating an array of white lights." The combination of Tabata, Green and Garlick fails to teach, suggest or even imply that displaying an outer region of the frame of the image should comprise "illuminating an array of white lights."

Claim 6 is allowable for at least the same reasons as claim 1 and 3 from which it depends, as well as for the additional limitation therein.

C. Claim 8

Claim 8 stands rejected as allegedly obvious over Tabata, Green and Garlick. Applicant amends claim 8 to make more clear that the display comprises a plurality of pixels to more clearly define over Green's single pixel comprising a plurality of separately energizable areas.

Claim 8 specifically recites, "a display comprising a plurality of pixels, the display having an inner region and an outer region of substantially lower

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resolution than the inner region" Applicant respectfully submits that the combination of Tabata, Green and Garlick fails to teach or render obvious an overall display (comprising a plurality of pixels) that has an inner region of higher resolution and an outer region of lower resolution. At best, the Examiner's combination teaches only that individual graphics primitives should have higher resolution within the primitive than at the perimeter of the primitive. The combination fails to teach that the primitive's resolution could be lowered if it is near the edge of the display. For this reason alone, claim 8 should be allowed.

Claim 8 further recites a controller that "generates an inner region display signal, and an outer region display signal using at least one of a motion, brightness or color characteristic from the inner region display signal." The combination of Tabata, Green and Garlick does not teach, suggest or even imply that an outer region display signal should be related to one of a motion, brightness or color of the inner region display signal.

Based on the foregoing, Applicant respectfully submits that claim 8, and all claims which depend from claim 8 (claims 9-12), should be allowed.

D. Claim 12

Claim 12 stands rejected as allegedly obvious over Tabata, Green and Garlick.

Claim 12 specifically recites that the outer region comprises "an array of white lights." The combination of Tabata, Green and Garlick does not teach, suggest or even imply that the outer region of a display (comprising a plurality of pixels) should comprise an array of white lights.

Claim 12 is allowable for at least the same reasons as claims 8 and 9 from which it depends, as well as the additional limitation therein.

E. Claim 13

Claim 13 stands rejected as allegedly obvious over Tabata in view of Deering. Applicant amends claim 13 to more clearly indicate that the distortions performed find their way to the image on the display screen to more clearly define over the system of Deering, which attempts to correct distortion in the final image.

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Applicant respectfully submits that the combination of Tabata and Deering fails to teach or fairly suggest all the limitations of claim 13. As previously discussed, Tabata appears to be directed to a wearable mask that allows a wearer to see both the surroundings and the image created by the liquid crystal display panels. Tabata, Figure 1; Col. 5, II. 8-10. According to the Examiner, "Deering discloses a graphics system configured to perform distortion correction having the pixel computation are selected [sic] to compensate for image distortions by a display device..." (emphasis added). Applicant agrees.

Claim 13, by contrast, specifically recites, "determining an amount of distortion ...; adjusting the image signal data so that the source image conveyed by the image signal data is distorted according to the determined amount of distortion; ... and displaying a distorted image on a display by using the display signal." While the combination of Tabata and Deering appear to teach "distortion correction" and "compensat[ing] for image distortions by a display," claim 13 is directed to precisely the opposite.

Based on the foregoing, Applicant respectfully submits that claim 13, and all claims which depend from claim 13 (claims 14 and 15), should be allowed.

F. Claim 16

Claim 16 stands rejected as allegedly obvious Tabata, Green and Deering. Applicant amends claim 16 to indicate that the display comprises a plurality of pixels (and has an inner and outer region) to more clearly define over Green's pixel. Further, Applicant amends claim 16 to indicate that the source image is distorted on the display in the outer regions to more clearly define over the system of Deering.

Claim 16 recites, "the source image distorted on the display in the outer region." In the Office Action dated January 2, 2004, the Examiner admits that Deering teaches "distortion correction" and "compensat[ing] for image distortions by a display." Thus, the combination of Tabata, Green and Deering teaches precisely the opposite of that which is claimed by claim 16.

Based on the foregoing, Applicant respectfully submits that claim 16 and all claims which depend from claim 16 (claims 17-19), should be allowed.

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G. Claim 20

Claim 20 stands rejected as allegedly obvious over Tabata, Green and Deering.

Claim 20 specifically recites, "optics arranged in a wearable display, wherein the optics modify an image displayed by the display by distorting an outer region of the image by a greater amount than an inner region ..." According to the Examiner, Deering teaches "distortion correction" and "compensate[ing] for image distortion by a display." Thus, the combination of Tabata, Green and Deering teaches precisely the opposite of that which is claimed by claim 20.

Based on the foregoing, Applicant respectfully submits that claim 20, as well as claim 21 which depends from claim 20, should be allowed.

II. CONCLUSION

Applicant respectfully requests reconsideration and allowance of the pending claims. If the Examiner feels that a telephone conference would expedite the resolution of this case, he is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If any fees or time extensions are inadvertently omitted or if any fees have been overpaid, please appropriately charge or credit those fees to Hewlett-

Sent by: CONLEY ROSE, P.C.

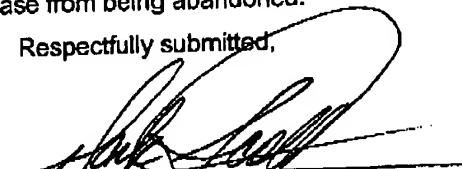
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Packard Company Deposit Account Number 08-2025 and enter any time
extension(s) necessary to prevent this case from being abandoned.

Respectfully submitted,



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PAGE 15/18 * RCVD AT 3/2/2004 2:26:39 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/2 * DNI:8729306 * CSID:713 238 8008 * DURATION (mm:ss):05:12